

REMARKS

The serial number of a patent applications referenced on pages 1 and 29 of the application has been added. Page 8 of the application has been corrected to address the objection to the drawings; specifically, the reference numbers in the specification and Figure 3 are now in agreement. Page 12 of the application has been revised for stylistic purposes with no change in the meaning, and also addresses the objection to Figure 4. Page 16 of the application has been amended to exclude hyperlinks which are unnecessary since the cited works are well known and can be obtained using the remaining description such as the RFC number. No new matter is added.

In view of the amendments to the specification, corrected drawings are not required. Further, the objections to the specification have now been overcome.

Claims 1-25 remain in the application. Claim 25 has been amended for purposes of clarity.

The undersigned has been informed that U.S.S.N. 09/550,460, referenced by the Examiner, was never completed and is abandoned. Further, benefit of its priority date is believed not to be required to distinguish the cited references. If a claim of priority is deemed to be required, the undersigned will investigate the issue further. In any event, concurrently filed herewith is an information disclosure statement which makes of record references the undersigned understands to be cited in U.S.S.N. 09/550,460. U.S. Patent 6,151,621 to Colyer teaches a centralized server based real-time collaboration system unlike the distributed peer-to-peer real time collaboration method disclosed and claimed in the present application. U.S. Patent 5,583,993 to Foster teaches a real-time collaboration system that is not based on time stamp and priority based peer-to-peer communication, as is taught in the present application.

The undersigned acknowledges with appreciation that claims 2-6, 8-12, 14-22, and 24.

Claims 1, 7, and 23 were rejected as being anticipated by U.S. Patent Publication 2002/0091846 to Garcia-Luna-Aceves. Claim 13 was rejected as

being obvious over U.S. Patent Publication 2002/0091846 to Garcia-Luna-Aceves in view of U.S. Patent Publication 2002/0035602 to Garcia-Luna Aceves. Claim 25 was rejected as being obvious over U.S. Patent Publication 2002/0091846 to Garcia-Luna-Aceves in view of U.S. Patent 6,556,724 to Chang. Each of these rejections is traversed.

First, U.S. Patent Publication 2002/0091846 was filed October 30, 2001 and U.S. Patent Publication 2002/0035602 was filed June 26, 2001. Both of these filing dates are after the filing date of the present application (April 17, 2001). As such, neither appears to be a valid reference (the substance of the underlying provisional applications filed in June and October 2000 not being known or presented in the office action).

Second, the work by Garcia et al. is a method for a multicast operation, which is a general-purpose primitive operation in distributed computing. The present invention assumes broadcasts, which is a multicast to all peers, and hence may benefit from a work like Garcia et al. However, the present application does not by any means claim a new multicast method. Rather, in the present invention, multicasts of any kind are used as a black box function in the method by which the invention provides for real-time collaboration. The present invention can also do without broadcasts or multicasts, by sending individual messages from the "broadcaster" to all recipients one by one. Thus, the invention is really quite independent of the technology that Garcia et al. are talking about.

For the specific purpose of providing real-time collaboration (assuming as available functionality, standard distributed computing primitives such as messaging, broadcasting, multicasting), the present invention provides a beneficial method (benefit being no centralized server) which has a distinguishing feature of using time stamps to ensure that the development of a shared workspace's replicas at all peers proceeds identically. This is a distinct problem from the communication primitives such as messaging/broadcasting/multicasting. This is explicitly set forth in claim 1 which requires providing a timestamp and priority-based serialization protocol that can substitute for a centralized server-based serialization protocol of a real-time collaboration session. U.S. Patent Publication

2002/0091846 to Garcia et al. does not disclose this feature. Paragraph 68 referenced by the Examiner, describes assigning a timestamp to each of several messages that are placed in a buffer and using the timestamp information to control an order. However, with reference to Figure 5 of Garcia et al., it can be seen that symmetric ordering of paragraph 68 is in the context of an order multicast, and is not functional as a substitute for a centralized server-based serialization protocol of a real-time collaboration session.

Claim 7 recites a structural feature (FIFO links) of base claim 1, and would not be anticipated by Garcia et al. for the same reasons. Similarly, claim 23 is not anticipated since the improvement is claimed based on the real-time collaboration functionality delivered by the claimed method as opposed to the multicast-related benefit applicable to Garcia et al.

With respect to claim 13, both published patent applications of Garcia et al. are relevant only in the particular combination of multicasts and coordinating multipoint groupwork, neither of which even remotely subsume the real-time collaboration referenced in the claimed invention.

With respect to claim 25, Chang et al. has been referenced for the resolution-dependent method. This is a mismatch with the claimed invention, and would not be combined with Garcia as proposed. In particular, claim 25 is focused on interoperability in heterogenous environments, while Chang is focused on image oriented matters. Furthermore, Chang does not make up for the deficiencies of Garcia with respect to claim 1 noted above.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-25 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any

fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael E. Whitham', is written over the typed name.

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